Paper No. 55

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte DALE FRANCIS

Appeal No. 2001-1343
Application No. 08/965,818

ON BRIEF

Before ABRAMS, McQUADE and NASE, Administrative Patent Judges.

McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Dale Francis appeals from the final rejection (Paper No. 49) of claims 77 through 112, all of the claims pending in the application.

THE INVENTION

The invention relates to a “torque wrench system which provides for the makeup and removal of threaded bolts with a single tool during both high torque and low torque phases of

the makeup or removal process" (specification, page 1).

Representative claim 77 reads as follows:

77. An improved torque wrench system for installing or removing threaded bolt or nut members, the system comprising:

a) a wrench body that includes first and second end portions, a drive head on the first end portion of the body;

b) a high torque wrench operatively connected to the drive head for engaging and rotating a threaded bolt or nut member at a first rotational speed under a high-torque condition;

c) the high-torque wrench including a hydraulic cylinder attached to the wrench body and extending to the first end portion, the cylinder having a piston with an extendable push rod that rotates the drive head under the high-torque condition for rotation which can exceed one revolution of the drive head;

d) a low-torque fluid driven rotary motor that rotates the drive head under a low-torque condition and at a second rotational speed that is at a higher rotational speed than the rotational speed that the high-torque wrench rotates the drive head;

e) a source of pressurized fluid that drives the low-torque motor during the low-torque condition, and the high-torque wrench under the high-torque condition;

f) a first pair of flowlines for transmitting fluid between the source of pressurized fluid and the low-torque motor;

g) a second pair of flowlines for transmitting fluid between the source of pressurized fluid and the high torque wrench;

h) a valve member that is activated by fluid pressure which valve member diverts fluid flow from the first pair of flowlines to the second pair of flowlines when there is a change in torque conditions to a preselected high-torque value that defines said high torque condition; and

i) wherein fluid flow is automatically diverted from the low-torque motor to the high-torque wrench by fluid pressure activation of the valve member above the preselected high-torque value.

THE EVIDENCE

The items relied on by the examiner as evidence of obviousness are:

Coyle, Sr. (Coyle)	4,679,469	Jul. 14, 1987
Thompson	4,898,248	Feb. 6, 1990
Bernard et al. (Bernard)	5,097,730	Mar. 24, 1992

The items relied on by the appellant as evidence of non-obviousness are:

The main and supplemental 37 CFR § 1.132 Declarations of Billy Clark (Paper Nos. 46 and 48).

The 37 CFR § 1.132 Declaration of Dale Francis (Paper No. 46).

THE REJECTIONS

Claims 95 through 98 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter the appellant regards as the invention.

Claims 77 through 112 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a specification which fails to comply with the written description requirement of this section of the statute.

Claims 77, 83, 85, 86, 95, 99, 100, 104, 105 and 109 through 111 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bernard in view of Thompson.

Claims 81, 82, 90, 91, 107 and 108 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bernard in view of Thompson and Coyle.

Attention is directed to the appellant's brief (Paper No. 53) and to the examiner's answer (Paper No. 54) for the respective positions of the appellant and the examiner with regard to the merits of these rejections.[1]

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[1] In the final rejection (Paper No. 49), claims 77 through 112 also stood rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential

DISCUSSION

I. The 35 U.S.C. § 112, second paragraph, rejection of claims 95 through 98

The examiner considers claim 95, and claims 96 through 98 which depend therefrom, to be indefinite because "[i]n claim 95, line 5, 'second end' is not understood since a 'first end' has not been previously set forth. Note also that 'the ... second end' lacks antecedent basis" (answer, page 4). As the appellant (see page 3 in the brief) has not disputed the examiner's assessment of indefiniteness, we shall summarily sustain this rejection.

II. The 35 U.S.C. § 112, first paragraph, rejection of claims 77 through 112

This rejection rests on the examiner's determination that the appellant's specification fails to comply with the written description requirement in that "[t]he following constitutes new matter: in claims 77, 91, 99, 'for rotation which can

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structural relationships. Upon reconsideration (see pages 2 and 4 in the answer), the examiner has withdrawn this rejection.

exceed one revolution of the drive head'; and all of the subject matter of claims 78-80, 84, 87-89, 92-94, 96-98, 101-103, 106, 109, and 112" (answer, page 4).

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983). The content of the drawings may also be considered in determining compliance with the written description requirement. Id.

The noted recitations in claims 77, 91, 99 essentially set forth that the high torque rotation of the drive head can exceed one revolution. Claim 84, which depends from claim 77, contains the related recitation that the high-torque wrench drives the drive head during the high-torque condition at least one revolution. The appellant's original disclosure contains no support for these limitations. The passage from specification page 7 which purportedly supplies the requisite

support (see page 7 in the brief) merely indicates that the high torque wrench can be repeatedly activated until the bolt is completely tightened to the required high torque. It simply does not follow that repeated activation of the high torque wrench will result in rotation of the drive head of at least one revolution.

Claims 78 through 80, 87 through 89, 92 through 94, 96 through 98 and 101 through 103 recite negative limitations which require that fluid flow is automatically diverted by the fluid pressure activated valve member "without" the use of strain gauges, solenoid valves or electronic pressure switches (claims 78, 87, 92, 96 and 101), that fluid flow is automatically diverted by the fluid pressure activated valve member "without" the use of electricity (claims 79, 88, 93, 97 and 102), and that the low-torque motor directly engages, "without" intermediate or intervening gears, the drive head (claims 80, 89, 94, 98 and 103). Although the originally filed disclosure does not expressly describe the fluid pressure activated valve member 48 or the structural connection between the low torque motor 40 and the drive head 29 in these terms, it does reasonably convey that these

relatively simple and straightforward components do not involve the features excluded by the negative claim limitations at issue.

Claim 109 recites that the flow of pressurized fluid through third and fourth flowlines holds the hydraulic cylinder of the claimed apparatus in a retracted, rest position when fluid flow is driving the fluid driven rotary motor of the apparatus in a low torque condition. The original disclosure does not support this recitation because it indicates that in the low torque condition (see Figure 2 and specification pages 6 and 7) the hydraulic cylinder is held in a retracted, rest position by the static presence of pressurized fluid in the third and fourth flowlines, not by the "flow" of pressurized fluid "through" these flowlines.

Finally, the examiner's determination that the original disclosure lacks support for the subject matter recited in claims 106 and 112 is reasonable on its face and has not been challenged by the appellant.[2]

[2] Contrary to the appellant's belief (see page 7 in the brief), claims 106 and 112 have not been canceled.

In light of the foregoing we shall sustain the standing 35 U.S.C. § 112, first paragraph, rejection of claims 77 through 112 only with respect to claims 77, 84, 91, 99, 106, 109 and 112, claims 78 through 83 and 85 by virtue of their dependency from claim 77, claims 92 through 94 by virtue of their dependency from claim 91, and claims 100 through 105 and 107, 108, 110 and 111 by virtue of their dependency from claim 99.

III. The 35 U.S.C. § 103 of claims 77, 83, 85, 86, 95, 99, 100, 104, 105 and 109 through 111 as being unpatentable over Bernard in view of Thompson

Bernard discloses an inline ratcheting tool, such as a torque wrench, for tightening down nuts with a very large torque. In Bernard's words,

> [t]he inline ratcheting tool 10 is positioned on a head 11 of a nut 12. In operation, the body portion 13 of tool 10 would engage a second nut 12 to provide a base from which the inline ratcheting tool 10 will obtain the necessary leverage in order to operate. As illustrated in FIG. 1, there is further mounted on body portion 13 a hydraulic cylinder 15 having the hydraulic cylinder connectedly engaged at its rear end 15 to the upper body portion 16 of body 13, and the cylinder having a piston member 17 for engaging the ratcheting means 18 . . . so that as the piston moves forward and rearward from the flow of hydraulic fluid in lines 19 and 21, ratcheting

> means 18 operates to tighten or loosen nut 12 [column 3, lines 43 through 56].

It is not disputed that the Bernard ratcheting tool responds to all of the limitations in representative claim 77 except for those relating to the low-torque fluid driven rotary motor, the fluid flowlines associated therewith, and the valve member.

Thompson discloses a fluid powered device, such as a socket wrench, for quickly and efficiently securing rotatable fastener elements such as screws and nuts. As described by Thompson,

> [d]evices within the scope of the present invention for tightening rotatable fastener elements include in general a source of pressurized fluid, a first rotatable actuator having a rotatable output shaft operable through multiple turns in response to fluid flow through the first actuator, [a] first control to allow the first actuator to operate until a first fluid pressure provided by the source of pressurized fluid is achieved, switching means operable in response to the attainment of the first fluid pressure, and a second rotating actuator device, operated by the switching means, and connected to operate the output shaft through a portion of a rotation in response to the attainment of the first pressure. The switching can be accomplished either by fluid or electrical switching [column 2, lines 15 through 28].

Of particular interest is the fluid switching embodiment shown in Figure 4. Although the reference numerals in Figure 4 do not match those used in the underlying description (see column 4, line 57 et seq.), it is readily apparent that this embodiment includes a low torque, fluid-driven rotary motor 20, a high torque, fluid-driven motor 40, a first pair of flowlines for transmitting fluid between a source of pressurized fluid and the low torque motor, a second pair of flowlines for transmitting fluid between the source of pressurized fluid and the high torque motor, and a valve member (referenced by numeral 65 in Figure 4) activated by fluid pressure for diverting fluid from the first pair of flowlines to the second pair of flowlines when there is a change in torque conditions to a preselected high-torque value that defines the high torque condition, wherein fluid flow is automatically diverted from the low torque motor to the high torque motor by fluid pressure activation of the valve member above the preselected high torque value.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed

invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

In the present case, it would have been prima facie obvious to one of ordinary skill in the art to provide Bernard's ratcheting tool with a low-torque fluid driven rotary motor, associated fluid flowlines and a valve member as recited in representative claim 77 in view of the Figure 4 embodiment disclosed by Thompson. Thompson's teaching of the speed and efficiency benefits afforded by a socket wrench tool having both low and high torque motors would have provided the artisan with ample suggestion or motivation for this modification. The appellant's criticisms of this reference combination are not persuasive because they essentially rest on the inaccurate assumption that Thompson is the primary reference proposed to be modified in view of Bernard. The related argument that the references do not teach or suggest a pressure activated valve of the sort recited in appealed

claims fails to account for the pressure activated valve in Thompson's Figure 4 embodiment.

Thus, the combined teachings of Bernard and Thompson establish a prima facie case of obviousness with respect to the subject matter recited in representative claim 77.

The appellant's declaration evidence of non-obviousness purportedly shows that the claimed invention was appreciated by others for its inventive aspects, solved a long-felt need in the art, and was copied by competitors (see pages 18 and 19 in the brief).

The Francis declaration pertains to an innovation award presented to the appellant by the American Society of Mechanical Engineers (ASME) at the Offshore Technology Conference held May 3-6, 1999 in Houston, Texas. The declaration establishes that the award was based in large part on the benefits of the claimed torque wrench system when used in deepwater drilling applications; however, neither representative claim 77 nor any other appealed claim is limited to such applications. Moreover, to the extent that the award and the related ASME press release (copy appended to the declaration as Exhibit A) extol the general purpose speed

and efficiency aspects of the claimed system, the Thompson patent shows that these advantages were already known in the art. In this regard, Thompson appears to refute the statement on page 2 in the press release that "[n]o motor, air or hydraulic[,] had ever been successfully combined with any hydraulic torque wrench until now."

The Clark declarations suffer the same flaw to the extent that they too laud the general purpose speed and efficiency benefits of the claimed system. These declarations also mention a number of other purported advantages, such as a design which allows use in a confined space, a motor on top of a ratchet, the elimination of a lot of hose cluster, and the use of a suspension apparatus. The appealed claims, however, do not reflect these features. Finally, the Clark declarations lack any substantiation for the assertions therein of copying and solution to a long felt need in the art.

Thus, the appellants' 37 CFR § 1.132 declarations carry little weight as evidence of non-obviousness with respect to the subject matter recited in representative claim 77. To the extent that the declarations do constitute such evidence, they

are clearly outweighed by the examiner's strong reference evidence of obviousness. In this regard, the mere existence of evidence of non-obviousness does not control the obviousness determination. See Newell Companies Inc. v. Kenney Mfg. Co., 864 F.2d 757, 768, 9 USPQ2d 1417, 1426 (Fed. Cir. 1988), cert. denied, 493 U.S. 814 (1989); Richardson-Vicks Inc. v. The Upjohn Co., 122 F.3d 1476, 1483, 44 USPQ2d 1181, 1187 (Fed. Cir. 1997).

Hence, given the totality of relevant evidence and argument before us, the examiner's conclusion that the differences between the subject matter recited in representative claim 77 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art is well founded. Accordingly, we shall sustain the standing 35 U.S.C. § 103 rejection of claim 77 as being unpatentable over Bernard in view of Thompson.

Since the appellant has not argued separately the patentability over the prior art of any particular claim apart from the others, the rest of the appealed claims rejected under 35 U.S.C. § 103 stand or fall with representative claim

77 (see In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978)). Therefore, we also shall sustain the standing 35 U.S.C. § 103 rejections of claims 83, 85, 86, 95, 99, 100, 104, 105 and 109 through 111 as being unpatentable over Bernard in view of Thompson, and of claims 81, 82, 90, 91, 107 and 108 as being unpatentable over Bernard in view of Thompson and Coyle.

SUMMARY

The decision of the examiner:

a) to reject claims 95 through 98 under 35 U.S.C. § 112, second paragraph, is affirmed;

b) to reject claims 77 through 112 under 35 U.S.C. § 112, first paragraph, is affirmed with respect to claims 77 through 85, 91 through 94 and 99 through 112, and reversed with respect to claims 86 through 90 and 95 through 98;

c) to reject claims 77, 83, 85, 86, 95, 99, 100, 104, 105 and 109 through 111 under 35 U.S.C. § 103 as being unpatentable over Bernard in view of Thompson is affirmed; and

d) to reject claims 81, 82, 90, 91, 107 and 108 under 35 U.S.C. § 103 as being unpatentable over Bernard in view of Thompson and Coyle is affirmed.

No period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

NEAL E. ABRAMS Administrative Patent Judge	)	
JOHN P. McQUADE Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND

	)	INTERFERENCES
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	)	
	)	
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